complexes that are located in thylakoids membrane.

Recently a dynamic and intact thylakoid membrane extract having both anti-oxidative and anti-inflammatory properties and its use in combination with other anti-inflammatory compounds have been described in International patent publication numbers WO 01/49305 and WO 03/004042, respectively. The anti-oxidative and anti-inflammatory properties of the thylakoid extract have been demonstrated in *in vitro, ex vivo, in situ* and *in vivo* studies. Specifically, the thylakoid extract has been shown to capture the noxious reactive oxygen species including singlet oxygen species and to modulate pro- and anti-inflammatory cytokines toward attenuation of inflammation.

In vivo, topical applications (direct application at site of injury) of the thylakoid extract have been shown to prevent or reduce the UV-induced skin damages in hairless mice and to decrease TPA-induced ear inflammation in rats and mice as well as preventing damage to intestinal mucosa induced by TNBS or DSS in rats. Also, intraperitoneal injection of the thylakoid extract has been shown to reduce carrageenan-induced paw oedema. However, today, no data has confirmed the potential use of the thylakoid extract as an oral anti-oxidative and/or anti-inflammatory agent.

The present invention relates to the use of a thylakoid extract as an oral therapeutic agent.

Three commercially available polymers were used for this study sodium alginate, carboxymethyl cellulose low viscosity (CMC1) and carboxymethyl cellulose high viscosity (CMC2). The complex PCT was given by PureCell Technologies inc.

PCT stability to compression

First of all, PureCell Technologies inc. PCT was compressed as such, with any excipient, in order to evaluate the capacity of PCT to preserve its biological activity, following compression. Tablets of 200 mg made from PCT only were obtained by dry compression at 1, 2.5 and 5 T in a Carver hydraulic press using a punch of 9 mm diameter. The obtained tablets were broken down to powder and sent to PureCell Technologies inc. where the complex activity was tested.

PCT stability to compression in presence of polymeric excipients

Tablets of 200 mg based on, one of the three polymers (alginate, CMC1 or CMC2) containing 20, 40 or 60% of PCT were obtained by dry compression at 2.5 T in a Carver hydraulic press using a punch of 9 mm diameter. The obtained tablets were sent to PureCell Technologies inc. where the complex activity was tested.

Tablet behavior in simulated gastro-intestinal fluid

Two series of tablets of 200 mg were realized, one composed of one of the three polymers (alginate, CMC 1 or CMC2) without the PCT and the other based on one of the three polymers containing 20, 40 or 60% of PCT. Tablets were obtained by dry compression at 2.5 T in a Carver hydraulic press with a 9 mm diameter punch.

The comportment of tablets was tested in simulated gastric fluid